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Committee on the Status of Endangered Wildlife in Canada

Comité sur le statut des espèces menacées de disparition au Canada

Ottawa, Ont. K1A 0H3
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STATUS REPORT ON THE W[illegible]-HEADED WOODPECKER

PICOIDES ALBOLARVATUS

BY

RICHARD J. CANNINGS

STATUS ASSIGNED IN 1992

THREATENED

REASON: SMALL POPULATION IN RESTRICTED RANGE. CONTINUING SLOW LOSS OF HABITAT APPARENTLY CAUSING CONTINUED DECLINES.

OCCURRENCE: BRITISH COLUMBIA

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JUNE 1990

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STATUS REPORT ON THE WHITE-HEADED WOODPECKER

PICOIDES ALBOLARVATUS

IN CANADA

BY

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STATUS ASSIGNED IN 1992

THREATENED

Frontispiece. White-headed Woodpecker pair (by Robert A. Cannings).

A. ABSTRACT

The White-headed Woodpecker breeds in Canada only in the south Okanagan Valley of British Columbia. Numbers fluctuate significantly, but the present Canadian population is almost certainly fewer than 100 birds. The White-headed Woodpecker requires mature to old-growth stands of ponderosa pine with a high density of snags for nesting and feeding, and depend on ponderosa pine seeds for much of their food requirements. Considering its low population, narrow habitat requirements and shrinking habitat availability, the White-headed Woodpecker should be considered Threatened in Canada.

B. DISTRIBUTION

B. 1. WORLD (FIGURE 1)

The White-headed Woodpecker is resident in coniferous forests from extreme southern British Columbia south through eastern Washington and northern Idaho to southern California and Nevada (American Ornithologists' Union 1983).

B. 2. CANADA (FIGURE 2)

In Canada, the White-headed Woodpecker is found only in British Columbia, where it is a very rare resident in the Okanagan Valley from Naramata south, and casual (not reported annually) in the Similkameen Valley, Grand Forks area, and the Kootenays (Weber and Cannings 1976, Cannings et al. 1987, Campbell et al. 1990). All breeding records to date and about 90 percent of all sight records have been from the southern Okanagan Valley (Weber and Cannings 1976, Campbell et al. 1990).

C. PROTECTION

As are most other North American birds, the White-headed Woodpecker and its nests and eggs are protected in Canada and the United States from hunting and collecting under the Federal

Figure 1. Distribution of the White-headed Woodpecker.

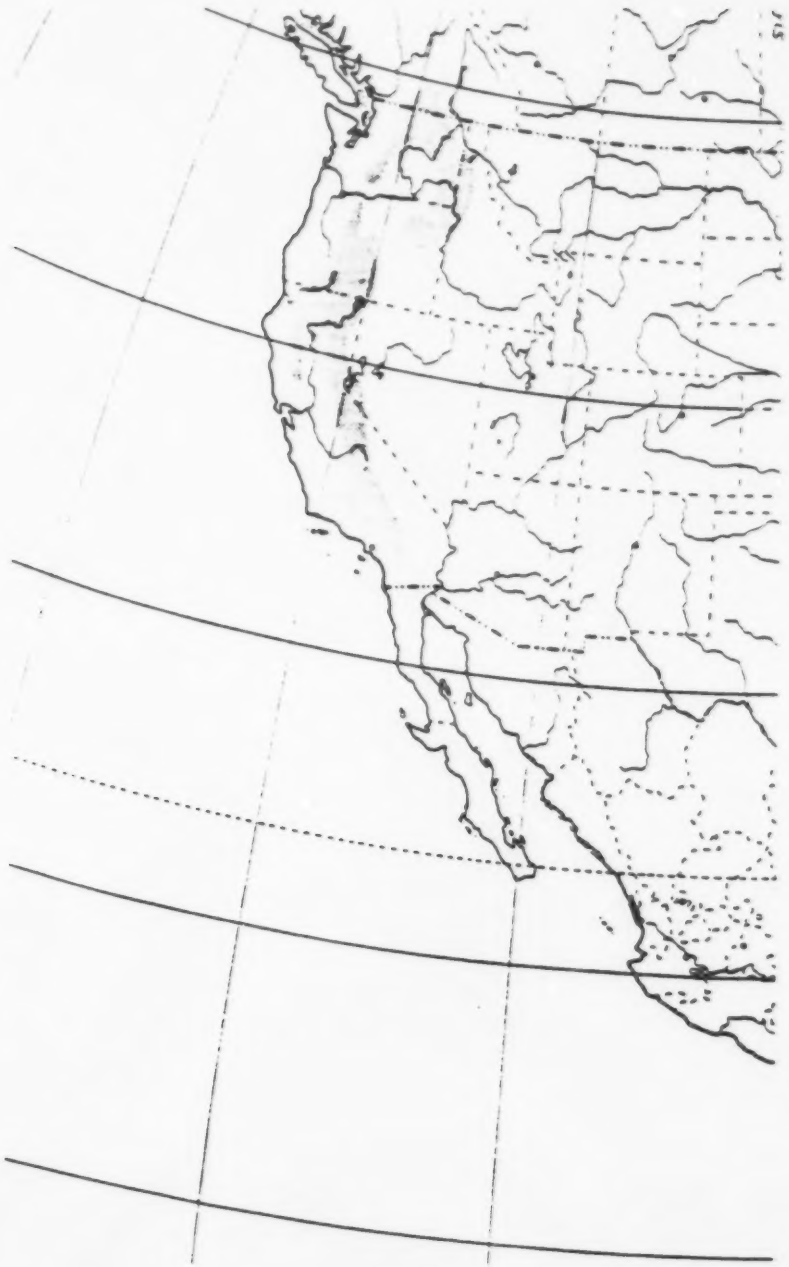
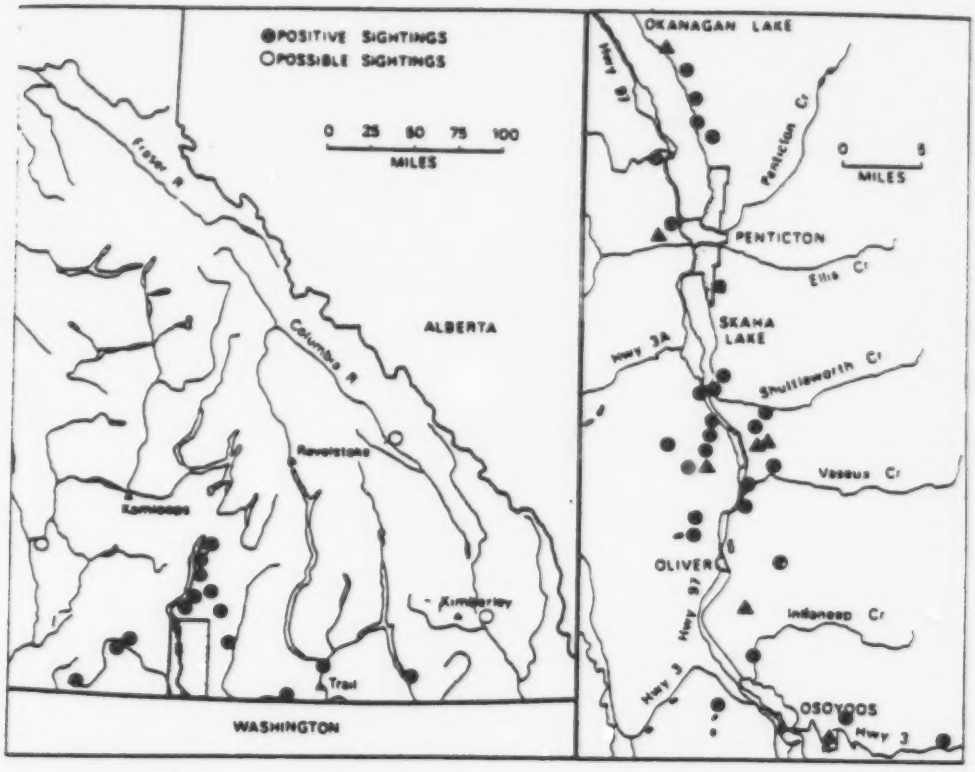


Figure 2. Canadian distribution of the White-headed Woodpecker. Filled circles indicate confirmed sightings, open circles indicate unconfirmed sightings, triangles indicate known breeding sites (adapted from Weber and Cannings 1976 with further data from Campbell et al 1990).



Migratory Birds Convention of 1916. It is also protected in British Columbia under the Wildlife Act of 1982.

D. POPULATION SIZE

The British Columbia population of the White-headed Woodpecker has apparently fluctuated widely over the last fifty years. Campbell et al. (1990) report 15 records of the species in the 1950s, 112 in the 1960s, 68 in the 1970s, and only 16 from 1980-1987. My personal recollection of this trend is the same; the species was considered very rare in the late 1950s and early 1960s, but became relatively easy to find in the late 1960s (seen approximately every second time appropriate habitat was searched), and very rare again by the late 1970s. Weber (1980) notes that White-headed Woodpeckers declined drastically in numbers through the 1970s, but could not suggest a reason for the decline. Preston (1990) searched for White-headed Woodpeckers for 12 days from May to July 1990 in suitable habitat in the south Okanagan without seeing a single bird. The British Columbia population is definitely under 100 birds.

The White-headed Woodpecker is considered rare throughout the northern part of its range; Burleigh (1972) states that it is "scarce and rather local" in Idaho and the Washington Department of Wildlife (1988) considers it rare to uncommon in that state.

E. HABITAT

E. 1. Habitat preferences

The White-headed Woodpecker has long been considered a classic example of a species dependent on ponderosa pine (*Pinus ponderosa*) and/or its close relatives, such as Jeffery pine (*P. jefferyi*) and Coulter pine (*P. coulteri*). Burleigh (1972) states that, in Idaho, "its preference is for mountain slopes covered with open ponderosa pine, and so partial is it to such a site that it is almost useless to look for it elsewhere." Weber and Cannings (1976) broke down 115 British Columbia sightings as to their habitats as follows: ponderosa pine forest 85%; ornamental gardens 5%; mixed

ponderosa pine/Douglas-fir (*Pseudotsuga menziesii*) forest 4%; Douglas-fir forest 3%; Engelmann spruce (*Picea engelmannii*)/lodgepole pine (*Pinus contorta*) forest 2 %; and black cottonwoods (*Populus trichocarpa*) 1 %. In the Sierra Nevada, however, Milne and Hejl (1989) found less dependence on pine-dominated forests; 33 of 53 nests there were in mixed-conifer forest, 7 in red fir (*Abies magnifica*), 10 in and along the edges of wet mountain meadows, 2 in Jeffrey pine, and 1 in lodgepole pine. Likewise, Beedy (1981) found the White-headed Woodpecker to be equally common in mixed-conifer and red fir forests of open and closed canopies in the central Sierra Nevada.

As to habitat structure, Milne and Hejl (1989) state that the White-headed Woodpecker tends to nest in open-canopied stands of mature and overmature trees; 22 nests were in stands with less than 40% canopy cover and 21 were in stands with 41-69% cover; 10 nests were in meadows, presumably surrounded by forest. Eighty-seven percent were in mature and older stands of conifer forest and 68% were on southern rather than northern aspects.

Thomas (1979) states that White-headed Woodpeckers primarily use mature and old-growth pure ponderosa pine and mixed forests. Grand fir (*Abies grandis*), subalpine fir (*Abies lasiocarpa*), and lodgepole pine forests were of secondary importance. According to Thomas (1979) and Bull (1977), snags must be a minimum of 25 cm dbh for use as nest or roost sites and a snag density of 558/100 ha (about 45/territory) is needed for maximum population density. That is the highest snag density requirement for any Oregon woodpecker (Thomas 1979).

E. 2. Nest sites

Campbell et al. (1990:440) summarize known British Columbia nest sites as follows: "Of 7 nests, 5 were situated in ponderosa pines, 1 was in a Douglas-fir snag...and 1 was in a stump... heights ranged from 2.5 to 9 m, with 3 between 2.5 and 3 m." Raphael and White (1984), in their study of cavity-nesting birds in the Sierra Nevada, found that White-headed Woodpeckers nested in the oldest, softest snags which were short, had large diameters and no small branches.

Milne and Hejl (1989) found 23 nests in broken-topped snags, 6 in whole snags, 15 in leaning or fallen logs, and 9 in stumps; the mean height of their nest trees was 8 m. Nests were excavated in dead wood; all but one nest were in dead trees; one was in a half-dead willow. Nests were closer to the ground than random; the highest was 29 m up in a sugar pine (*Pinus lambertiana*). The minimum dbh for a White-headed Woodpecker nest snag in Milne and Hejl's study was 20 cm. Although Milne and Hejl (1989) reviewed 176 nest sites and found only six nests in live trees, at least two of the British Columbia nests were in live ponderosa pines, one in the dead heartwood of a fire-scarred tree (BCNRS). This may reflect a low density of snags in the White-headed Woodpecker's Canadian range.

E. 3. Habitat protection

Habitat suitable for White-headed Woodpeckers is protected in Vaseux Bighorn National Wildlife Area and lands owned or administered by the British Columbia Wildlife Branch in the Vaseux Lake area, Okanagan Mountain Provincial Park, Ecological Reserve No. 7 (Upper Trout Creek), and Rock Ovens Regional Park. However, White-headed Woodpeckers are probably regularly present only in the Vaseux Lake lands mentioned above.

F. GENERAL BIOLOGY

F. 1. Reproductive Capability

Thomas (1979) states that White-headed Woodpeckers can fledge three to five young per year. The only closely examined British Columbia nest contained four fresh eggs (Cooper 1969). There is no evidence for more than one brood per season; young have been found in British Columbia nests from 30 May to 16 July (Campbell et al. 1990).

F. 2. Species Movement

White-headed Woodpeckers are essentially nonmigratory, although post-breeding wandering, especially by young birds, presumably takes place. More than half (7/13) of the British Columbia records from outside the south Okanagan are from fall and winter (Campbell et al. 1990). Burleigh (1972) states that there is a seasonal altitudinal movemement in Idaho--up in spring, down in fall--but there is no indication of this phenomenon in British Columbia.

F. 3. Behaviour/Adaptability

As stated in the Population Size section, the White-headed Woodpecker is locally distributed throughout its range; it is given the lowest versatility index of any Oregon woodpecker (Thomas 1979).

F. 3. 1. Territory size

The minimum territory size for the White-headed Woodpecker is about 8 ha (5 pairs/40 ha) (Kilgore 1971, Bull 1977, Thomas 1979); Milne and Hejl (1989) state that territories in the west-central Sierra Nevada are about 10 ha in size. Considering the low population densities in the northern part of its range, territory sizes in British Columbia are likely much larger.

F. 3. 2. Food habits

Beal (1911) found that, unlike other members of its genus, the White-headed Woodpecker appears to subsist largely on vegetable matter, especially seeds of ponderosa pine. Tevis (1953) found it to be a major seed predator of sugar pine, destroying 34% of available cones. Tevis describes their habits as follows: "Moving through the forest in small groups of four to six, these birds slashed open every cone on which they alighted and ate the seeds, leaving deep vertical trenches..." Koch et al. (1970) found that males in southern California foraged extensively on cones of the Coulter pine while females foraged almost exclusively (90%) on the lower main trunk.

Ponderosa pine seeds are usually only available in the late summer and fall except in years of good cone crops (Dahms and Barrett 1970); Otvos and Stark (1985) found ponderosa pine seeds in White-headed Woodpecker stomachs only in the fall. Ligon (1973), however, found that ponderosa pine seeds were an important food source in late summer, fall, and spring, and presumably in winter as well; his data may have been collected during an exceptional cone crop.

Ligon (1973) collected three females and one male in an area infested with pine beetles (*Dendroctonus ponderosae*); the male's stomach contained 100% insects, mainly beetles, while the females' stomachs contained 70% pine seeds and no beetles. When foraging for insects on conifer trunks or branches, they flake and chip bark away with angled strokes (like three-toed woodpeckers, *Picoides tridactylus* and *P. arcticus*) rather than striking the wood directly (like Hairy Woodpeckers, *Picoides villosus*) (Ligon 1973). In summer, they feed by gleaning foliage in terminal needle clusters (Ligon 1973). Morrison and With (1987) found that, compared to the closely related Hairy Woodpeckers, White-headed Woodpeckers fed more on living trees, a finding consistent with their habit of gleaning rather than drilling and excavating. Otvos and Stark (1985) studied bird diets in a site with a western pine beetle (*Dendroctonus brevicomis*) infestation and found that White-headed Woodpeckers took relatively few beetles and more homopterans (aphids and scale insects) in comparison with Hairy Woodpeckers.

Weber and Cannings (1976) mention three records of White-headed Woodpeckers in British Columbia feeding on stalks of great mullein (*Verbascum thapsus*), a common weedy plant in disturbed areas in the southern interior. These birds were presumable eating the seeds of this plant, but may have been searching for insects as well.

G. LIMITING FACTORS

The primary limiting factor for populations of the White-headed Woodpecker in Canada is the dependence of the species on mature to old growth ponderosa pine forests (Thomas 1979). This dependence is likely related to both the availability of snags for nesting and roosting as well as the availability of cones for foraging. Most of the old growth ponderosa pine forests of British Columbia

were heavily logged in the 1930s and 1940s (E. C. Kedge pers. comm.) and only scattered remnants remain, usually in sites with difficult access. Some of these have recently been harvested by helicopter logging operations, but this practice has been stopped for the time being (E. C. Kedge pers. comm.).

G. 1. Ponderosa pine seed production

If White-headed Woodpeckers are dependent on large pine seeds as food in late summer, fall and winter, it is the availibility of this resource which may the most important limiting factor to its population size. Ponderosa pines produce good cone crops only every four to five years in the Pacific Northwest (Oliver and Ryker 1990), and no other suitable pine species are found throughout the northern part of the White-headed Woodpecker's range. In the Sierra Nevada, three or more suitable pine species are present, so asynchronous production of good cone crops by those species may allow the White-headed Woodpecker to maintain high population densities there; indeed Beedy (1981) found it to be the commonest woodpecker in the central Sierra Nevada. Seed production by ponderosa pines is also related to the age and size of the trees and the density of the stand; almost all seeds are produced by large, dominant trees in open situations (Dahms and Barrett 1970, Oliver and Ryker 1990). As a result of logging and subsequent fire suppression, many ponderosa pine forests in the Okanagan Valley are now characterized by dense stands of young trees (E. C. Kedge, pers. comm.), presumably resulting in poor seed production there.

G. 2. Snag availability

Reduced snag densities after even selective logging would likely seriously lower the quality of White-headed Woodpecker nesting habitat. Bull (1977) notes that its habit of nesting low in snags may increase nest predation pressure.

G. 3. Pesticides

Since insects are an important food source for White-headed Woodpeckers, particularly in the summer, pesticide application in ponderosa pine forests would likely have a significant impact on woodpecker populations.

H. SPECIAL SIGNIFICANCE OF THE SPECIES

The White-headed Woodpecker is on the Ministry of Environment's (1989) Blue List. It is considered a Priority 1 species by the South Okanagan Critical Areas Program (SOCAP) (Hlady 1990), meaning its British Columbia range is restricted to the South Okanagan. Weber (1980) considered it a species of Special Concern in British Columbia. In Washington state it is listed as a species of concern with a recommendation for State Sensitive, citing its rarity and the short supply of mature and old-growth pine forests (Washington Department of Wildlife 1988).

The White-headed Woodpecker shares its pine forest habitat with several other species of concern, including the western rattlesnake (*Crotalus viridis*), racer (*Coluber constrictor*), gopher snake (*Pituophis melanoleucus*), Nuttall's cottontail (*Sylvilagus nuttallii*), California bighorn sheep (*Ovis canadensis californiana*), Gray Flycatcher (*Empidonax wrightii*), Common Poorwill (*Phalaenoptilus nuttallii*), Lewis' Woodpecker (*Melanerpes lewis*), and Western Bluebird (*Sialia mexicana*). The latter two species also share the White-headed Woodpecker's need for snags.

J. EVALUATION

Considering the very low Canadian population of the White-headed Woodpecker, its narrow habitat requirements, and the restricted distribution and decreasing availability of that habitat, it should be considered a Threatened species in Canada.

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